CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. 99-126

WASTE DISCHARGE REQUIREMENTS
FOR
WESTERN PLACER WASTE MANAGEMENT AUTHORITY
WESTERN REGIONAL SANITARY LANDFILL FACILITY
CLASS II AND CLASS III LANDFILLS
PLACER COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Board) finds that:

1. Western Placer Waste Management Authority, (hereafter Discharger) submitted a Report of Waste Discharge (RWD) dated 27 April 1999 for the Western Regional Sanitary Landfill Facility. The RWD requests revised Waste Discharge Requirements (WDRs) to reflect engineering alternatives for future modules at the facility. Specifically, the RWD requests the use of a geosynthetic clay liner (GCL) in the base liner and final cover systems as a substitution to the prescriptive compacted clay component.

2. The facility was previously regulated by WDRs Order No. 97-043 which implemented both Title 23, California Code of Regulation (CCR), Division 3, Chapter 15 (Chapter 15) and State Water Resources Control Board Resolution No. 93-200.

3. Effective 18 July 1997, the water quality regulations for Class II and Class III disposal facilities formerly contained in Titles 23 and 27 of the CCR were re-codified into Chapters 1 through 7, Subdivision 1, Division 2, Title 27, CCR (Title 27). Chapter 15 is therefore no longer applicable to this facility and these WDRs implement the requirements of Title 27 and Resolution No. 93-200.

4. The 291-acre facility consists of Assessor's Parcel Numbers 017-061-070. The facility is 5.5 miles north-northeast of Roseville, in Section 6, T11N, R6E, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order.

WASTE MANAGEMENT UNITS

5. The Facility consists of two waste management units - a Class II landfill and a Class III landfill. The Class III landfill has 6 modules; Modules 1, 2, 10, 11, 12, and 13. The Class II Landfill has 8 modules; Modules 5, 6, 7, 8, 9, 14, 15, and 16. These waste management units and modules are shown on Attachment B, which is incorporated herein and made part of this Order. Landfill modules are not separate waste management units, but are designations for operations planning. The modules at the facility are described in the following table.

Module	Waste Management Unit (Landfill Classification)	Description of Module	Status
1	Class III	Lined with compacted on-site soils with a hydraulic conductivity ranging from 1 x 10^{-4} to 1 x 10^{-7} cm/sec. Final cover consisting of the following: 1-foot thick soil vegetative layer, 1-foot thick compacted clay layer (3.4 x 10^{-7} cm/s to 6.8 x 10^{-8} cm/s), and a 2-foot soil foundation layer.	Closed
2	Class III	Lined with compacted on-site soils with a hydraulic conductivity ranging from 1x10^{-4} to 1x10^{-7} cm/sec. Final cover consisting of the following: 1-foot thick soil vegetative layer, 1-foot thick compacted clay layer (3.4 x 10^{-7} cm/s to 6.8 x 10^{-8} cm/s), and a 2-foot soil foundation layer.	Closed
10	Class III	Lined with compacted on-site soils with a hydraulic conductivity ranging from 1x10^{-4} to 1x10^{-7} cm/sec. Final cover consisting of the following: 1-foot thick soil vegetative layer, 1-foot thick compacted clay layer (3.4 x 10^{-7} cm/s to 6.8 x 10^{-8} cm/s), and a 2-foot soil foundation layer.	Closing (Completion by 10/30/99)
11	Class III	A portion of the module is lined with on-site soils with a hydraulic conductivity ranging from 1x10^{-4} to 1x10^{-7} cm/sec. The other portion contains a composite liner consisting of a compacted on-site soils overlain by a HDPE liner. The liners are overlain by a blanket LCRS.	Closing (Completion by 10/30/99)
12	Class III	Composite liner consisting of the following blanket LCRS, 60-mil HDPE liner, compacted on-site soils.	Active
13	Class III	Composite liner constructed to RCRA, Subtitle D specifications and consisting of the following: Blanket LCRS 60-mil HDPE liner, 2-foot compacted clay layer with a hydraulic conductivity of 7.9 x 10^{-8} cm/s.	Active
14-Phase 1 (east side)	Class II	Base composite liner system on the module floor consisting of the following: blanket LCRS, 60-mil HDPE liner, geosynthetic clay liner as an engineered alternative in lieu of 1-foot of clay and a 1-foot compacted clay liner with a hydraulic conductivity ranging from 9.6 x 10^{-9} cm/s to 9.9 x 10^{-10} cm/s. Base composite liner system on the module west facing slope consisting of the following: blanket LCRS, 60-mil HPDE liner, 2-foot compacted clay liner 9.6 x 10^{-9} cm/s. to 9.9 x 10^{-10} cm/s. Base composite liner system on the module's south facing slope (underlain by Module 13 refuse) consisting of the following: Minimum 1-foot thick operations layer, 60-mil HDPE liner, intermediate cover foundation soil layer.	Operating
14-Phase 2 (west side) and 5, 6, 7, 8, 9, 15 and 16	Class II	Composite base and side slope liner system consisting of the following: Blanket LCRS, 60-mil HDPE liner, geosynthetic clay liner with a hydraulic conductivity less than 1 x 10^{-9} cm/s as an engineered alternative in lieu of a 2-foot compacted clay layer. Final cover system consisting of the following: 1-foot thick soil vegetative layer, 60-mil HDPE liner geosynthetic clay liner with a hydraulic conductivity less than 1 x 10^{-9} cm/s as an engineered alternative in lieu of a 1-foot compacted clay layer, and a 2-foot soil foundation layer.	Permitted. To be constructed as needed.

WASTES AND THEIR CLASSIFICATION

6. The Discharger proposes to continue to discharge municipal solid waste and wastewater treatment sludge to the Class II landfill. These wastes are classified as 'designated' 'nonhazardous solid waste' and 'inert waste' using the criteria set forth in Title 27. Only 'nonhazardous solid waste', 'inert waste', dewatered sewage sludge, and water treatment sludge shall be discharged into the Class III landfill.

7. The area served by the landfill includes the cities of Roseville, Auburn, Lincoln, and Rocklin and all the unincorporated areas of Placer County west of the Sierra Nevada drainage divide.

SITE DESCRIPTION

8. Land within 1000 feet of the facility is used for agriculture, ranching, and light industry.

9. There are no known Holocene faults within 200 feet of the facility.

10. Subsurface sediments beneath the facility include unconsolidated to strongly indurated clays, silts, and sands, with lenses of gravel. The hydraulic conductivity of these sedimentary deposits range from $1x10^{-4}$ to $1x10^{-7}$ cm/sec. The sedimentary deposits extend to a depth of approximately 200 feet below ground surface (bgs) and are a part of the Victor and Fair Oaks Formations.

11. The first groundwater bearing zone varies from approximately 90 to 110 feet bgs. The hydraulic gradient is generally to the south to southwest.

12. The beneficial uses of groundwater are domestic, agricultural, industrial supply, and stock watering.

13. The facility receives an average of 23 inches of precipitation per year as measured at Rocklin. The mean pan evaporation for this site is 75 inches per year.

14. The 100-year, 24-hour precipitation event for the facility is 4.56 inches, as read from maps prepared by the California Department of Water Resources.

15. The facility is not within a 100-year floodplain, based on Federal Emergency Management Agency (FEMA) flood insurance rate maps.

16. Surface drainage is to Auburn Ravine, a tributary of the Sacramento River. The beneficial uses of these surface waters are agricultural supply, recreation, aesthetic enjoyment, and preservation and enhancement of fish, wildlife and other aquatic species.

GROUNDWATER CONDITIONS

17. Volatile organic compounds (VOCs) have historically been detected in monitoring well MW-9 located near the older, unlined modules. VOCs have also been detected sporadically in monitoring wells MW-10 and MW-11, which are downgradient and upgradient of well MW-9, respectively. Monitoring wells MW-9 through MW-11 are monitored on a quarterly basis as a part of the Corrective Action Program (CAP).

18. The Discharger has been implementing measures proposed in the 23 September 1997 Corrective Action Program and subsequent addendum. The CAP specifics the following actions: installation of 8 infill gas wells; closure of Modules 1, 2, 10, 11 and 12, quarterly monitoring of wells MW-9 through MW-11, and preparation of an aquifer characteristics report. All of the measures have been implemented except for closure of Modules 10 and 11 and closure of Module 12. These WDRs require the closure of Modules 10 and 11 by 30 October 1999 and the closure of Modules 12 and 13, as one project, no later than 18 months from the date of final receipt of waste.

19. During the fourth quarter 1998 monitoring event, chloride was detected in monitoring well MW-19 at concentrations exceeding the chloride concentration limit. Results from a retest conducted in December 1998 confirmed the exceedance. Board staff required an evaluation of groundwater quality directly upgradient of well MW-19 to assess whether a landfill release has occurred. The results are inconclusive; however these WDRs require that MW-19 and MW-20 be monitored on a quarterly, as opposed to semi-annual, schedule.

20. The Discharger is conducting corrective action monitoring to demonstrate the effectiveness of the CAP (per Title 27, Section 20430), as well as concurrent detection monitoring to provide the best assurance of the detection of potential subsequent releases (per Title 27, Section 20385(4)(c) and Section 20420). The Discharger must demonstrate that the facility is in compliance with its Water Quality Protection Standard, including any applicable concentration limits greater than background, before the facility can cease corrective action monitoring and return to facility-wide detection monitoring status.

OPERATION OF THE FACILITY

21. Each ten to twenty acre module is excavated below grade. Refuse is placed in lifts of ten feet and is spread in two foot thick layers on a 3:1 maximum slope working face 70 to 100 feet wide. The top of each lift is covered daily with a minimum six-inch soil layer or other approved alternative cover. One foot of soil is placed on any area that will not receive wastes for 180 days. Surface grading is maintained at all times to insure lateral runoff and prevent ponding over areas in which waste is buried.

22. The Discharger plans on placing additional waste within low-lying areas in Modules 12, 13 and 14. This shall be a vertical expansion only. Only Class III wastes and sewage sludge

shall be accepted. Although the final grade contours will be modified, the landfill's final closure elevation of 60 feet above natural grade shall not be affected.

23. Stormwater runoff that has contacted landfill wastes and leachate collected by the leachate and recovery system (LCRS) are discharged to the City of Roseville sewer system.

24. The Discharger's current plans indicate that the Class II and Class III landfills at the site will reach capacity by the year 2025. The design capacity of the landfill is 13,284,000 cubic yards.

25. Current operations include closure of the modules two at a time. Final landfill slopes will be no steeper than 3:1 to minimize erosion and no flatter than 3 percent to provide sufficient slope for surface water runoff.

WASTE MANAGEMENT UNIT DESIGN

26. On 17 June 1993, the State Water Resources Control Board adopted Resolution No. 93-62 which implements a State Policy for the construction, monitoring, and operation of municipal; solid waste landfills which is consistent with the federal municipal solid waste regulations promulgated under Title 40, Code of Federal Regulations, Part 258 (Subtitle D).

27. Resolution No. 93-62 requires the construction of a specified composite liner system at new municipal solid waste landfills, or expansion areas of existing municipal solid waste landfills, that receives wastes after 9 October 1993. It also allows the Board to consider the approval of engineered alternatives to the prescriptive standard. Section III.A.b of Resolution No. 93-62 requires that the engineered alternative be of a composite design similar to the prescriptive standard.

28. Section 20080(b) of Title 27 allows the Board to consider the approval of an engineered alternative to the prescriptive standard. In order to approve an engineered alternative in accordance with Section 20080(c)(1) and (2), the Discharger must demonstrate that the prescriptive design is unreasonably and unnecessarily burdensome and will cost substantially more than an alternative which will meet the criteria contained in Section 20080(b), or would be impractical and would not promote attainment of applicable performance standards. The Discharger must also demonstrate that the proposed engineered alternative is consistent with the performance goal addressed by the particular prescriptive standard, and provides protection against water quality impairment equivalent to the prescriptive standard in accordance with Section 20080(b)(2) of Title 27.

29. The Discharger has submitted a RWD requesting approval of an engineered alternative to the two feet of clay for the bottom liner and the one foot of clay in the landfill cover. The Discharger proposes that the bottom base liner would consist of, in ascending order: GCL with a conductivity at least $1x10^{-9}$ cm/sec, 60 mil HDPE, 12" of gravel containing a blanket LCRS, and a 12" operations layer. The side slopes would consist of: GCL with a

conductivity at least $1x10^{-9}$ cm/sec, 60 mil HDPE, a geocomposite side slope drainage layer, and a 24" operations layer. The final cover would consist of: a two-foot thick foundation layer which may contain waste materials (provided such materials have appropriate engineering properties to be used as a foundation layer), overlain by a GCL with a hydraulic conductivity of $1x10^{-9}$ cm/sec, and then a one-foot thick vegetative soil layer.

30. The Discharger has adequately demonstrated that construction of a Subtitle D prescriptive standard liner would be unreasonable and unnecessarily burdensome when compared to the proposed engineered alternative design. The RWD states that the Discharger will realize a savings of $7,400/acre for the cover and $36,000/acre for the base when using GCL instead of the clay liner. Based on an analysis of the proposed engineered alternative, a composite base liner consisting of a HDPE geomembrane and a GCL exhibit superior performance to the prescriptive standard. In many ways, the performance of the GCLs can be shown to exceed the performance of compacted clay liners. The Board has approved the substitution of geosynthetic clay liners (GCL) for field constructed clay liners at other sites since March 1995 and there are no significant differences in the characteristics of previously approved liners and the liners proposed for this facility.

31. All containment structures shall be designed and constructed under the direct supervision of a California registered civil engineer or certified engineering geologist and shall be certified by that individual as meeting the prescriptive standards and performance goals of Title 27 prior to waste discharge.

CEQA AND OTHER CONSIDERATIONS

32. This action to revise WDRs for this facility is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.) in accordance with Title 14, CCR, Section 15301.25.

33. On 9 October 1991, the United States Environmental Protection Agency (EPA) promulgated regulations (Title 40, Code of Federal Regulations, Parts 257 and 258, "federal MSW regulations" or "Subtitle D") that apply, in California, to dischargers who own or operate landfills at which MSW is discharged. The majority of the federal MSW regulations became effective on the "Federal Deadline," 9 October 1993.

34. This order implements:

    a. The Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin, Fourth Edition;

b. The prescriptive standards and performance goals of Title 27, CCR, Division 2, Subdivision 1, effective 18 July 1997, and subsequent revisions;

c. The prescriptive standards and performance criteria of Part 258, Title 40 of the Code of Federal Regulations, Subtitle D of the Resource Conservation and Recovery Act; and

d. State Water Resources Control Board Resolution No. 93-62, Policy for Regulation of Discharges of Municipal Solid Waste, adopted 17 June 1993.

PROCEDURAL REQUIREMENTS

35. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.

36. The Board has notified the Discharger and interested agencies and persons of its intention to revise the WDRs for this facility.

37. In a public hearing, the Board heard and considered all comments pertaining to this facility and discharge.

IT IS HEREBY ORDERED that Order No. 97-043 is rescinded, and it is further ordered that the Western Placer Waste Management Authority and its agents, successors and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. The discharge of 'hazardous waste' at this facility is prohibited. The discharge of designated wastes to the Class III landfill is prohibited. For the purposes of this Order, the terms 'hazardous waste' and "designated waste" are defined by Title 27, CCR.

2. Discharges of waste to either a landfill unit that has not received wastes or a lateral expansion of a landfill unit are prohibited, unless the discharge is to an area equipped with a containment system which meets requirements in **B. Discharge Specifications**, below.

3. The discharge to the landfill units of solid waste containing free liquid or moisture in excess of the waste's moisture holding capacity, is prohibited.

4. The discharge to landfill units of liquid or semi-solid waste (i.e., waste containing less than 50 percent solids), except dewatered sewage or water treatment sludge as provided in Section 20220(c) of Title 27, is prohibited.

5. The discharge of waste to a closed module is prohibited.

6. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or groundwater is prohibited.

7. The discharge of biohazardous and /or biomedical waste, and radioactive waste is prohibited.

8. The disposal of containerized liquids at this facility is prohibited.

9. The discharge of waste within 100 feet of surface waters not related to landfill drainage structures is prohibited.

10. The discharge of wastes which have the potential to cause corrosion or decay, or otherwise reduce or impair the integrity of containment structures or which, if commingled with other wastes in the unit, could produce violent reaction, heat or pressure, fire or explosion, toxic by-products, or reaction products which in turn:

    a. require a higher level of containment than provided by the unit,
    b. are restricted hazardous wastes, or
    c. impair the integrity of containment structures,

    is prohibited.

B. DISCHARGE SPECIFICATIONS

General Specifications

1. Wastes shall only be discharged into waste management units specifically designed for their containment and/or treatment, as described in this Order. Class II landfills shall include liner systems which prevent the movement of fluid, including waste and leachate from the waste management units to waters of the State as long as waste in such units pose a threat to water quality.

2. Wastes shall not be discharged below an elevation of 82 feet above mean sea level (M.S.L.). A minimum separation of 10 feet shall be maintained between wastes or leachates and the highest anticipated elevation of underlying groundwater including the capillary fringe.

3. Prior to the discharge of waste to a landfill, all wells within 500 feet of the unit shall have sanitary seals which meet the requirements of the Placer County Division of Environmental Health or shall be properly abandoned. A record of the sealing and/or abandonment of such wells shall be sent to the Board and to the State Department of Water Resources.

4. Leachate generation by a landfill module LCRS shall not exceed 85% of the design capacity of the sump pump. If leachate generation exceeds this value or if the depth of fluid in an LCRS exceeds the minimum needed for safe pump operation, then the Discharger shall immediately cease the discharge of sludges and other high-moisture wastes to the landfill module and shall notify the Board in writing within seven days. Notification shall include a time table for remedial or corrective action necessary to reduce leachate production.

General Waste Management Unit Construction

5. Clay liners shall have a maximum hydraulic conductivity of 1×10^{-7} cm/sec and a minimum relative compaction of 90%. All low hydraulic conductivity landfill caps shall have a hydraulic conductivity of either 1×10^{-6} cm/sec (or less) or equal to the hydraulic conductivity of any bottom liner system or underlying natural geologic materials, whichever is less permeable. The layer shall have a minimum relative compaction of 90%. A GCL with a hydraulic conductivity of less than 5×10^{-9} cm/sec may be substituted for the two-foot clay liner beneath the landfill. A GCL with a hydraulic conductivity of less than 5×10^{-9} cm/sec may also be substituted for the one- foot thick clay cap. Hydraulic conductivities of liner materials shall be determined by laboratory tests using solutions with similar properties as the fluids that will be contained. Hydraulic conductivities of cover materials shall be determined by laboratory tests using water. Hydraulic conductivities determined through laboratory methods shall be confirmed by field testing in accordance with the Standard Provisions and Reporting Requirements referenced in Provision E.1 below.

6. LCRSs shall be designed, constructed, and maintained to collect twice the anticipated daily volume of leachate generated by the landfill and to prevent the buildup of hydraulic head on the underlying liner at any time. The depth of fluid in any LCRS sump shall be kept at or just above the minimum needed to ensure safe pump operation.

7. Any landfill liner or cover constructed after the effective date of this Order shall be designed and constructed in accordance with Title 27 and this Order and approved by Board staff prior to operation. Prior to the beginning of construction of any landfill module liner or cover, a final design report shall be submitted to the Board for review and approval and include, but not be limited to, the engineered design plans for the landfill, the contract specifications, a construction quality assurance (CQA) plan to

verify that construction specifications will be met, and recommended changes to the monitoring and reporting program.

If a GCL is not employed in lieu of the compacted, low permeability clay layer then a CQA test pad report shall be prepared. The CQA test pad report, a written summary of the test pad construction procedures and CQA program for the test pad shall be submitted with all test results, analyses and copies of the third party CQA inspector's field notes. The report shall have a certification stating that the test pad was constructed in accordance with the design plans and that the same procedures and methods will be used in the construction of the clay liner or cover. The test pad report should discuss correlation of field and laboratory test results and recommend field construction parameters for the clay liner or cover. This report must be reviewed and approved prior to the beginning of construction for the clay liner or cover.

8. Approval of the final design report shall be obtained from Board staff prior to construction of the landfill liner or cover. A final construction report shall be submitted for approval by Board staff after each phase of construction and prior to the discharge of waste into the constructed phase. The final construction report shall include, but not be limited to, as-built plans for the landfill, a CQA report with a written summary of the CQA program and all test results, analyses, and copies of the inspector's original field notes, and a certification as described in the Standard Provisions and Reporting Requirements.

Landfill Specifications

9. Municipal solid waste shall be discharged to either (1) that portion of a module which received wastes (i.e., that active portion of the module which is within the boundaries of the Existing Footprint), or (2) to an area equipped with a containment system which meets the additional requirements for both liners and leachate collection systems specified below.

10. New landfill units and lateral expansions shall not be within jurisdictional waters of the United States (wetlands) unless the Discharger has successfully completed, and the Board has approved, all demonstrations required for such discharge under 40 CFR 258.12(a).

11. Landfill leachate shall be disposed by a Board approved method.

12. Methane and other landfill gases shall be adequately vented, removed from the landfill unit, or otherwise controlled to prevent the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water due to migration though the vadose (unsaturated) zone.

13. The Class II Landfill shall be designed to withstand the maximum credible earthquake without damage to the foundation, or to the structures which control leachate, surface drainage, erosion, or gas.

14. Dewatered sewage or water treatment sludge may be accepted for disposal at the Class III landfill if the sludge contains at least 20 percent solids (primary sludge) or 15 percent solids (secondary sludge), is mixed with refuse at a minimum solids-to-liquid ratio of 5:1 by weight and shall not exceed the initial moisture holding capacity of the solid waste. These restrictions do not apply to the disposal of dewatered sludge at the Class II landfill. Dewatered sewage or water treatment sludge may be used as alternative daily cover if it is blended with soil or other approved material, at a rate of 25% sludge to 75% soil or approved material.

15. During the rainy season (from 1 November to 31 March) a minimum one-foot thickness of low permeability cover shall be maintained over any landfill area not receiving waste for 30 days. The active disposal area shall be confined to the smallest area practical based on the anticipated quantity of waste discharge and other waste management facility operations.

16. Intermediate cover shall be applied to areas of the landfill where filling is not anticipated within 180 days. Intermediate cover shall consist of one foot of compacted clay soil with a permeability less than $1x10^{-5}$ cm/sec or an engineered alternative approved by staff.

Protection from Storm Events

17. Precipitation and drainage control systems shall be designed, constructed, and maintained to accommodate the anticipated volume of precipitation and peak flows from surface runoff under 1000-year, 24-hour precipitation conditions for Class II WMUs and 100-year, 24-hour precipitation conditions for Class III WMUs.

18. Modules shall be designed, constructed, and operated in compliance with precipitation and flood conditions contained in the Standard Provisions and Reporting Requirements referenced in Provision E.1 below.

19. Annually, prior to the anticipated rainy season, any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the site and to prevent surface drainage from contacting or percolating through wastes.

Landfill Closure Specifications

20. At closure, each landfill unit shall receive a final cover which is designed and constructed to function with minimum maintenance and consist, at a minimum, of a two-foot thick foundation layer which may contain waste materials (provided such materials have appropriate engineering properties to be used as a foundation layer), overlain by a one-foot thick clay liner with a hydraulic conductivity of $1x10^{-7}$ cm/sec, and finally by a one-foot thick vegetative soil layer. A GCL with a hydraulic conductivity of $1x10^{-9}$ cm/sec may be substituted for the one-foot thick clay cap. Composite lined landfill modules, or portions thereof, shall be covered with a composite barrier layer (i.e., geomembrane and engineered natural material).

21. Modules 12 and 13 and all subsequent modules may be closed two at a time, as necessary.

22. Vegetation shall be planted and maintained over each closed landfill module. Vegetation shall be selected to require a minimum of irrigation and maintenance and shall have a rooting depth not in excess of the vegetative layer thickness.

23. Closed landfill modules shall be graded to at least a three-percent (3%) grade and maintained to prevent ponding.

C. MONITORING SPECIFICATIONS

1. The Discharger shall comply with Monitoring and Reporting Program (MRP) No. 99-126, which is attached to and made part of this Order. This compliance includes, but is not limited to, maintenance of waste containment facilities and precipitation and drainage controls and monitoring groundwater, leachate from the landfill units, the vadose zone and surface waters, throughout the active life of the waste management units and the post-closure maintenance period. A violation of MRP No. 99-126 is a violation of these WDRs.

2. The Discharger shall comply with the Water Quality Protection Standard (as defined in Section 20390 of Title 27) which is specified in MRP No. 99-126 and the Standard Provisions and Reporting Requirements, dated August 1997.

3. The concentrations of Constituents of Concern in waters passing through the Points of Compliance shall not exceed the Concentration Limits established pursuant to Monitoring and Reporting Program No. 99-126, which is attached to and made part of this Order.

4. The Water Quality Protection Standard for organic compounds which are not naturally occurring shall be taken as the detection limit of the analytical method used (i.e., US EPA methods 8260 and 8270). The presence of non-naturally occurring

organic compounds in samples from detection monitoring wells is evidence of a release from the waste management unit.

5. For each landfill module, no waste shall be discharged until analytical data is obtained from quarterly sampling of all the module's background monitoring points for a period of one year. This data is necessary for selecting the appropriate statistical methods pursuant to Section 20415(e)(8) of Title 27 and for establishing the background values specified pursuant to Section 20415(e)(10) of Title 27.

D. FINANCIAL ASSURANCES

The Discharger shall obtain and maintain adequate assurances of financial responsibility for initiating and completing corrective action for all known and reasonably foreseeable releases from a waste management unit at the facility in accordance with Sections 20380(b) and 22222 of Title 27. The Discharger shall provide the current corrective action cost estimate to the Regional Board for review and approval by **1 January 2000** and annually for the term of this permit. The Discharger shall demonstrate to the CIWMB and report to the Regional Board that it has established one of the acceptable financial assurance mechanisms described in Sections 22228 and 22240-22254 of Title 27 in at least the amount of the cost estimate approved by the Regional Board.

In the event the Regional Board determines that the Discharger has failed or is failing to perform corrective action as required by law, the California Integrated Waste Management Board (CIWMB) may direct the Discharger to pay from the pledged revenue such amounts as necessary to insure sufficient corrective action. The Discharger shall be obligated to use such funds for corrective action in accordance with the directive of the Regional Board.

In accordance with Title 27, the Discharger shall further provide and maintain adequate financial assurances to cover the costs of closure and post-closure maintenance for each waste management unit and shall report to the Regional Board by **1 January 2000** that it has demonstrated financial responsibility to the CIWMB.

E. PROVISIONS

1. The Discharger shall comply with the Standard Provisions and Reporting Requirements, dated August 1997, which are hereby incorporated into this Order. The Standard Provisions and Reporting Requirements contain important provisions and requirements with which the Discharger must comply. A violation of any of the Standard Provisions and Reporting Requirements is a violation of these WDRs.

2. The Discharger shall comply with all applicable provisions of Title 27 and 40 CFR Part 258 that are not specifically referred to in this Order.

3. The Discharger shall maintain legible records of the volume and type of waste discharged at the landfill and the manner and location of discharge. Such records shall be maintained at the facility until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the Board and of the State Water Resources Control Board at any time during normal business hours. At the beginning of the post-closure maintenance period, copies of these records shall be sent to the Regional Board.

4. The Discharger shall provide proof to the Board **within sixty days after completing final closure** that the deed to the landfill facility property, or some other instrument that is normally examined during a title search, has been modified to include, in perpetuity, a notation to any potential purchaser of the property stating that:

   a. the parcel has been used as a municipal solid waste landfill;

   b. and use options for the parcel are restricted in accordance with the post-closure land uses set forth in the post-closure plan and in WDRs for the landfill; and

   c. in the event that the Discharger defaults on carrying out either the post-closure maintenance plan or any corrective action needed to address a release, then the responsibility for carrying out such work falls to the property owner.

5. The Discharger shall maintain waste containment facilities and precipitation and drainage controls, and shall continue to monitor groundwater, leachate from the landfill unit, the vadose zone, and surface waters per MRP No. 99-126 throughout the post-closure maintenance period.

6. The post-closure maintenance period shall continue until the Board determines that remaining wastes in the landfill will not threaten water quality.

7. The Discharger shall receive approval from the Executive Officer before discharging waste to containment areas or waste management units constructed after the effective date of this Order. The Discharger shall submit to the Board all documentation (i.e., reports, plans, designs) required by this Order for the review and approval by Board staff prior to implementation.

8. The Discharger shall complete the tasks outlined in these WDRs and the attached Monitoring and Reporting Program No. 99-126 in accordance with the following time schedule:

Task	Compliance Date
A. New Landfill Construction	
(1) Submit monitoring system and program	**4 months prior to start of construction of any landfill expansion**

	Task	Compliance Date
(2)	Submit design plans, specifications, construction schedule, and construction quality assurance plan	**2 months prior to start of construction of test pad and liner system**
(3)	Submit construction quality assurance report for test pad and any modifications to design plans, specification, construction schedule, and construction quality assurance plan	**2 weeks prior to beginning construction of liner system**
(4)	Submit as-built plans, construction quality assurance, and certification report	**2 weeks prior to discharge of wastes (for closure construction, within 2 months after completion)**
B.	Install An Additional Monitoring Well Along the Western Boundary of the Facility	
(1)	Submit plans for installation of one new monitoring well adjacent to the west side of proposed Module 6.	**1 January 2000**
(2)	Install the new monitoring well	**1 May 2000**
(3)	Report first sampling round in Second Quarter 2000 Monitoring Report	**15 July 2000**
C.	Corrective Action	
(1)	Close Modules 10 and 11	**30 October 1999**
(2)	Close Modules 12 and 13 as one project	**No later than 18 months from the date of final receipt of waste**

9. One year prior to placing any waste in the modules, two additional monitoring wells shall be installed near the west end of proposed Modules 7 and 9 (shown on Attachment B).

10. The Discharger shall conduct the periodic load checking program as described in the November 1996 Load Checking Program report. The load checking program shall ensure that 'hazardous wastes' and 'designated wastes' are not discharged to any Class III Landfill at the facility and that 'hazardous wastes' are not discharged to any Class II Landfill at the facility. The program shall also ensure that wastes exceeding

moisture limitations are not discharged to Landfill units. By **30 January 2000**, the Discharger shall submit a waste acceptance policy for the exclusion of "hazardous waste" from the landfill.

11. The Discharger shall remove and relocate any wastes discharged at this site in violation of this Order.

F. REPORTING REQUIREMENTS

1. The Discharger shall comply with the reporting requirements specified in this Order, in MRP No. 99-126 and in the Standard Provisions and Reporting Requirements.

2. The Discharger shall submit a closure and post-closure maintenance plan (or suitable modifications to a pre-existing plan) that complies with 40 CFR 258.60 and 258.61 and with Title 27 of the CCR.

3. The Discharger or persons employed by the Discharger shall comply with all notice and reporting requirements of the State Department of Water Resources with regard to the construction, alteration, destruction, or abandonment of all monitoring wells used for compliance with this Order or with MRP No. 99-126, as required by Section 13750 through 13755 of the California Water Code.

4. The Discharger shall notify the Board in writing of any proposed change in ownership or responsibility for construction or operation of the landfill. The Discharger shall notify the succeeding owner or operator in writing of the existence of this Order. A copy of that notification shall be sent to the Board.

5. The Board will review this Order periodically and will revise these requirements when necessary.

I, GARY M. CARLTON, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 17 September 1999.

GARY M. CARLTON, Executive Officer

RDB:9/17/99
Attachments

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. 99-126

FOR
WESTERN PLACER WASTE MANAGEMENT AUTHORITY
WESTERN REGIONAL SANITARY LANDFILL FACILITY
CLASS II AND III LANDFILLS
PLACER COUNTY

Monitoring and Reporting Program (MRP) No. 99-126, including Attachment E, and the Standard Provisions, dated August 1997, are part of Waste Discharge Requirements (WDRs) Order No. 99-126. WDRs No. 99-126 and the Standard Provisions require compliance with this MRP. Failure to comply with this Program, or with the Standard Provisions, constitutes non-compliance with the WDRs and with the Water Code, which can result in the imposition of civil monetary liability.

The Discharger shall maintain water quality monitoring systems that comply with the provisions of Title 27, California Code of Regulations (CCR), Division 2, Subdivision 1, Chapter 3, Subchapter 3, and are appropriate for detection monitoring, evaluation monitoring, and corrective action monitoring.

A. MONITORING

1. Solid Waste Monitoring Program

Solid Waste Monitoring

The Discharger shall monitor all wastes discharged to the Class III and Class II landfill modules on a monthly basis and report to the Board as follows:

Parameter	Units	Reporting Frequency
Quantity discharged	cubic yards or tons	Quarterly
Minimum elevation of discharge	feet & tenths M.S.L.	Quarterly
Capacity of landfill/module remaining	percent	Annually

2. Detection, Evaluation, and Corrective Action Monitoring Program

For each monitored medium, all Monitoring Points assigned to detection monitoring, and all Background Monitoring points shall be monitored semi-annually for the Monitoring Parameters listed in this Program. All Monitoring Points assigned to the evaluation and corrective action monitoring shall be monitored quarterly for the Monitoring Parameters listed in this Program.

For any given monitored medium, a sufficient number of samples shall be taken from all Monitoring Points and Background Monitoring Points to satisfy the data analysis requirements for a given Reporting Period, and shall be taken in a manner that ensures sample independence to the greatest extent feasible.

3. Leachate Monitoring Program

All landfill modules and leachate collection and removal systems (LCRS) sumps shall be inspected weekly for leachate generation. Upon detection of leachate in a previously dry LCRS, the Discharger shall immediately sample the leachate and shall continue to sample and report the leachate at the frequencies listed in Table I thereafter. Leachate monitoring will be incorporated into all future expansions at the landfill.

All LCRSs shall be tested annually to demonstrate operation in conformance with waste discharge requirements. The results of these tests shall be reported to the Board and shall include comparison with earlier tests made under comparable conditions. All visible portions of synthetic liners shall be inspected on a quarterly basis and their condition reported quarterly to the Board.

TABLE I - LEACHATE MONITORING PROGRAM

Parameter	Units	Test Method	Frequency
Field Parameters			
Total Flow	gallons	Field Measure	Monthly
Flow Rate	gallons/day	Field Measure	Monthly
Specific Conductance	µmhos/cm	Field Measure	Monthly
pH	pH units	Field Measure	Monthly
Monitoring Parameters			
Total Dissolved Solids (TDS)	mg/L	EPA 160.1	Quarterly
Chloride	mg/L	EPA 300.0	Quarterly
Sulfates	mg/L	EPA 300.0	Quarterly
Nitrate - Nitrogen	mg/L	EPA 300.0	Quarterly
Constituents-of-Concern			
Total Organic Carbon	mg/L	EPA 415.1	Annually
Carbonate	mg/L	EPA 130.2	Annually
Bicarbonate	mg/L	EPA 130.2	Annually
Total Alkalinity	mg/L	EPA 310.1	Annually
Volatile Organic Compounds[1]	µg/L	EPA 8260B	Annually
Semi-Volatile Organic Compounds[1]	µg/L	EPA 8270C	Annually
Organochlorine Pesticides	µg/L	EPA 8081A	Annually
Chlorophenoxy Herbicides	µg/L	EPA 8151	Annually
Organophosphorus Compounds	µg/L	EPA 8141A	Annually
Inorganics (dissolved)[1]	mg/L	See Attachment E	Annually
Polychorinated Biphenyls (PCBs)	mg/L	EPA 8082	Annually

[1] See Attachment E

4. Groundwater Monitoring

The monitoring network shall consist of background monitoring wells MW-4, MW-23 and LW-1, detection monitoring wells MW-2, MW-3, MW-5 through MW-8 and MW-12 through MW-22, and corrective action monitoring wells MW-9, MW-10 and MW-11. In addition, this Order requires the installation of a new detection monitoring well. Locations of these wells are shown on Attachment B, except LW-1. LW-1 is one mile west on the adjacent property across Fiddyment Road. Any additional monitoring wells constructed at the site as new cells are constructed shall be added to the monitoring network. Samples shall be collected from all wells in the monitoring network at the frequency and for the parameters specified in Table II.

Field and laboratory tests shall be reported in the quarterly monitoring reports. All Monitoring Parameters shall be graphed so as to show historical trends at each well.

The groundwater surface elevation (in feet and hundredths, M.S.L.) in all wells shall be measured on a quarterly basis and used to determine the velocity and direction of groundwater flow. This information shall be displayed on a water table contour map and/or groundwater flow net for the site and submitted with the quarterly monitoring reports.

Groundwater sampling shall also include an accurate determination of the groundwater surface elevation and field parameters (pH, temperature, electrical conductivity, turbidity) for that Monitoring Point or Background Monitoring Point. Groundwater elevations taken prior to purging the well and sampling for Monitoring Parameters shall be used to fulfill the groundwater gradient/direction analyses required. For each monitored groundwater body, the Discharger shall measure the water level in each well and determine groundwater gradient and direction at least quarterly, including the times of expected highest and lowest elevations of the water level for the respective groundwater body. Groundwater elevations for all background and downgradient wells for a given groundwater body shall be measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater gradient and direction. This information shall be included in the quarterly monitoring reports. Statistical or non-statistical analysis should be performed as soon as the monitoring data are available.

Additional wells are needed along the western boundary of the site. These wells shall be installed with a well spacing not to exceed 700 feet. As long as interwell comparisons are used to detect a release, these new wells may be installed so that a single round of monitoring is completed prior to waste discharge. If intrawell comparisions are approved for use at the landfill, these wells must be installed so that at least four quarters of monitoring is completed so that concentration limits can be determined prior to waste discharge.

5-Year Constituents-of-Concern for Groundwater

The fourth quarter 1995 monitoring event was the first 5-year Constituent-of-Concern (COC) monitoring event for wells MW-2 through MW-12; therefore, the next COC event is scheduled to take place in the **second quarter of the year 2000** for these wells. The 5-year COC monitoring event for wells MW-13 through MW-23 was performed in the third quarter of 1997. Therefore, the next COC event for these new wells will be in the **first quarter of the 2002.**

TABLE II – GROUNDWATER MONITORING PROGRAM

Parameter	Units	Test Method	Frequency
Field Parameters[1]			
Temperature	°F	Field Measure	Semi-annually[1]
Groundwater Elevation	Feet (100ths), MSL	Field Measure	Semi-annually[1]
Specific Conductance	µmhos/cm	Field Measure	Semi-annually[1]
pH	Number	Field Measure	Semi-annually[1]
Turbidity	Turbidity units	Field Measure	Semi-annually[1]
Monitoring Parameters[1]			
Chloride	mg/l	EPA 300.0	Semi-annually[1]
Nitrate-Nitrogen	mg/l	EPA 300.0	Semi-annually[1]
Sulfate	mg/l	EPA 300.0	Semi-annually[1]
Total Dissolved Solids	mg/l	EPA 160.1	Semi-annually[1]
VOCs[2]	µg/l	EPA 8260B	Semi-annually[1]
Constituents-of-Concern			
Total Organic Carbon	mg/l	EPA 415.1	5 years
Total Alkalinity	mg/l	EPA 310.1	5 years
Bromide	mg/l	EPA 300.0	5 years
SVOCs[2]	µg/l	EPA 8270C	5 years
Inorganics (dissolved)[2]	µg/l	See Attachment E	5 years
Carbonate	mg/l	EPA 130.2	5 years
Bicarbonate	mg/l	EPA 130.2	5 years
Organochlorine Pesticides	µg/l	EPA 8081A	5 years
Polychlorinated Biphenyls (PCBs)	µg/l	EPA 8082	5 years
Chlorophenoxy Herbicides	µg/l	EPA 8151	5 years
Organophosphorous Compounds	µg/l	EPA 8141A	5 years

1 Corrective action monitoring wells MW-9, MW-10, and MW-11; detection monitoring wells MW-19 and MW-20; and the new monitoring well to be installed as a result of this Order shall be monitored **quarterly** for field parameters and monitoring parameters. If a new background well is added to the monitoring network, it shall be monitored **quarterly until at least four quarters** of data have been collected to determine new concentration limits for the specified field parameters and monitoring parameters.

2 See Attachment E.

5. Surface Water Monitoring

The background monitoring point shall be surface water monitoring point SW-6. Surface water shall be sampled at surface water monitoring points SW-1, SW-2, SW-3, SW-4R and SW-7 to monitor water flowing off site. The locations of the monitoring points are shown on Attachment C.

Surface water samples are to be collected after the first storm of the rainy season which produces significant flow and during one other storm event that season. Samples shall be collected from all monitoring points and analyzed at the frequency and for the monitoring parameters specified in Table III.

Surface water monitoring reports shall be submitted with the corresponding quarterly groundwater monitoring report and shall include an evaluation of the potential impacts of the facility on surface water quality and compliance with the Water Quality Protection Standard.

5 Year Constituents-of-Concern for Surface Water

Beginning with the **first quarter of 2000**, the Discharger shall sample all surface water Monitoring Points for the COC listed in Table III which have a five year sampling frequency. Subsequent monitoring of five year COC shall be completed every fifth year after the year 2000.

TABLE III - SURFACE WATER MONITORING PROGRAM

Parameter	Units	Test Method	Frequency
Field Parameters			
pH	Number	Field Measure	Twice each winter[1]
Specific Conductance	µmhos/cm	Field Measure	Twice each winter[1]
Temperature	°F	Field Measure	Twice each winter[1]
Turbidity	Turbidity units	Field Measure	Twice each winter[1]
Monitoring Parameters			
Total Suspended Solids	mg/l	EPA 160.1	Twice each winter[1]
Total Dissolved Solids	mg/l	EPA 160.2	Twice each winter[1]
Chloride	mg/l	EPA 300.0	Twice each winter[1]
Nitrate-Nitrogen	mg/l	EPA 300.0	Twice each winter[1]
Sulfate	mg/l	EPA 300.0	Twice each winter[1]
Constituents-of-Concern			
Total Organic Carbon	mg/l	EPA 415.1	5 years
Carbonate	mg/l	EPA 130.2	5 years
Bicarbonate Alkalinity	mg/l	EPA 130.2	5 years
Chemical Oxygen Demand	mg/l	EPA 410.4	5 years
Dissolved Oxygen	mg/l	EPA 360.1/360.2	5 years
Oil and Grease	mg/l	EPA 5520/1664	5 years
Inorganics (dissolved)[2]	µg/l	See Attachment E	5 years

1 The Discharger shall collect surface water samples after the first storm of the rainy season which produces significant flow and during at least one other storm event in the wet season

2 See Attachment E

6. Unsaturated Zone Monitoring

The unsaturated zone monitoring network shall consist of "background" lysimeter pair B/G-A/B and downgradient lysimeter pairs S10-A/B, S11-A/B, S12-A/B, S13-A/B and S14-A/B. As additional modules and leachate sumps are constructed, lysimeter pairs shall be installed beneath the leachate collection sumps to monitor the soil pore fluids. Unsaturated zone monitoring shall be incorporated into any expansion of the footprint after 9 October 1993. Soil-pore liquid samples shall be analyzed at the frequency and for the monitoring parameters specified in Table IV.

Unsaturated Zone monitoring reports shall be submitted with the corresponding quarterly groundwater monitoring report and shall include evaluation of potential impacts of the facility on the unsaturated zone and compliance with the Water Quality Protection Standard.

5 Year Constituents-of-Concern for Water in the Unsaturated Zone

Beginning with the **first quarter of 2000**, the Discharger shall sample all unsaturated zone Monitoring Points for the COC listed in Table IV which have a five year sampling frequency. Subsequent monitoring of five year COC shall be completed every fifth year after the year 2000.

TABLE IV – UNSATURATED ZONE MONITORING PROGRAM

Parameter	Units	Test Method	Frequency
Field Parameters[1]			
Specific Conductance	µmhos/cm	Field Measure	Semi-annually
pH	pH units	Field Measure	Semi-annually
Monitoring Parameters[1]			
Total Dissolved Solids (TDS)	mg/L	EPA 160.1	Semi-annually
Chloride	mg/L	EPA 300.0	Semi-annually
Sulfate	mg/L	EPA 300.0	Semi-annually
Nitrate - Nitrogen	mg/L	EPA 300.0	Semi-annually
Constituents-of-Concern			
Total Organic Carbon	mg/l	EPA 415.1	5 years
Total Alkalinity	mg/l	EPA 310.1	5 years
Bromide	mg/l	EPA 300.0	5 years
Semi-Volatile Organic Compounds[2]	µg/l	EPA 8270C	5 years
Inorganics (dissolved)[2]	µg/l	See Attachment E	5 years
Carbonate	mg/l	EPA 130.2	5 years
Bicarbonate	mg/l	EPA 130.2	5 years
Organochlorine Pesticides	µg/l	EPA 8081A	5 years
Polychlorinated Biphenyls (PCBs)	µg/l	EPA 8082	5 years
Chlorophenoxy Herbicides	µg/l	EPA 8151	5 years
Organophosphorous Compounds	µg/l	EPA 8141A	5 years

[1] If a new background lysimeter is added to the monitoring program, it shall be monitored **quarterly until at least four quarters** of data have been collected to determine new concentrations limits.

[2] See Attachment E

B. REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required in the Standard Provisions and Reporting Requirements. Reports which do not comply with the required format will be **REJECTED** and the Discharger shall be deemed to be in noncompliance with the WDRs.

1. Standard Observations

Each monitoring report shall include a summary and certification of completion of all Standard Observations for the landfill, for the perimeter of the landfill, and for the receiving waters. The standard observations shall be performed on a weekly basis and shall include those elements as defined in the Standard Provisions and Reporting Requirements.

2. Quarterly Monitoring Reports

The Discharger shall report field and laboratory test results in the quarterly monitoring reports. The Discharger shall submit the quarterly monitoring reports to the Board by **15 January, 15 April, 15 July and 15 October** of each year. The Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The Discharger shall summarize the data to clearly illustrate compliance with the WDRs or the lack thereof. A short discussion of the monitoring results, including notations of any water quality violations, shall precede the tabular summaries. As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all reports shall be prepared by a registered professional or their subordinate and signed by the registered professional.

Each quarterly report shall include the information listed in the Standard Provisions as well as:

a. tabulated cumulative monitoring data including depth to groundwater measurements, groundwater elevations above mean sea level, groundwater and surface water analytical data, and Concentration Limits from the most recent annual report;

b. a groundwater contour map for the current quarterly groundwater elevation data showing hydraulic gradient and flow direction;

c. a copy of the laboratory analytical reports; and

d. if applicable, the status of any ongoing remediation, including all applicable data.

3. Annual Report

The **15 January** report shall also constitute the annual report for the previous calendar year. The annual report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous twelve months, so as to show historical trends, and shall propose Concentration Limits for each COC in each monitored medium. The Discharger shall report to the Board the results of any monitoring done more frequently than specified herein. Each annual report is to include the information listed in the Standard Provisions as well as:

a. tabular and graphical summaries of all data previously obtained;

b. groundwater contour maps for the previous year's groundwater elevation data showing hydraulic gradients and flow directions;

c. discussion of the long-term trends in the concentrations of any pollutants in groundwater and/or surface water;

d. if applicable, a description of all remedial activities including effectiveness and proposed changes or modifications in remedial action; and

e. an updated Water Quality Protection Standard including proposed Concentration Limits for all COCs.

4. Notification of Release

a. Detection Monitoring Program. If the Discharger or the Board finds that there is a statistically significant increase in indicator parameters or waste constituents over the water quality protection standards (established pursuant to MRP No. 99-126) at or beyond the Points of Compliance, the Discharger shall notify the Board or acknowledge the Board's finding in writing within seven days, and shall immediately re-sample for the constituent(s) or parameter(s) at the point where the standard was exceeded. Within 90 days, the Discharger shall submit to the Board the results of the re-sampling and either:

(1) a report demonstrating that the water quality protection standard was not, in fact, exceeded; or

(2) an amended Report of Waste Discharge for the establishment of a evaluation monitoring program, per Section 20420(k) of Title 27, which is designed to verify that water quality protection standards have been exceeded and to determine the horizontal and vertical extent of pollution.

b. Evaluation Monitoring Program. If the Discharger or the Board verifies that water quality protection standards have been exceeded at or beyond the Points of Compliance, the Discharger shall notify the Board or acknowledge the Board's finding in writing within seven days. Within 180 days, the Discharger shall submit to the Board an amended Report of Waste Discharge for the establishment of a corrective action program, per Section 20425 (d) of Title 27, which is designed to achieve compliance with the water quality protection standards.

D. WATER QUALITY PROTECTION STANDARD

The Water Quality Protection Standard (Standard) consists of the following elements:

Constituents of Concern;
Concentration Limits;
Monitoring Points;
Points of Compliance; and
Compliance Period.

Each of these is described as follows:

1. Constituents-of-Concern

The list of COCs shall include all the parameters listed in Tables I through IV.

2. Concentration Limits

The current concentration limits for the COC in groundwater, surface water, and the unsaturated zone are shown in Tables V, VI and VII, respectively. The concentration limits shall be updated on an annual basis to provide ongoing definition of background water quality. The Concentration Limit for any given COC or Monitoring Parameter in a given monitored medium (i.e., the uppermost aquifer) at a landfill shall be one of the following, and shall be used as the basis of comparison with data from the Monitoring Points in that monitored medium:

a. Background Value – a concentration limit not to exceed the background value established in the Monitoring and Reporting Program for that constituent and medium;

b. Value Redetermined each Reporting Period – a concentration limit determined using either:

(1) The mean (or median, as appropriate) and standard deviation (or other measure of central tendency, as appropriate) of the constituent's background data; or

(2) The constituent's method detection limit (MDL), in cases where less than 10% of the background samples exceed the constituent's MDL; or

c. A concentration limit greater than background, as approved by the Board for use during or after corrective action.

The concentration limits, and the statistical methods upon which they are based, are subject to ongoing review and approval by Board staff.

TABLE V – GROUNDWATER CONCENTRATION LIMITS

Constituent	Units	Concentration Limit
Specific Conductance (EC)	µmhos/cm	460
PH	pH Units	6.4-8.4
Turbidity	Turibidty units	940 NTU
Total Dissolved Solids (TDS)	mg/L	360
Chloride	mg/L	43
Sulfate	mg/L	14
Nitrate as N	mg/L	4.5
Total Organic Carbon	mg/L	1.0
Carbonate	mg/L	*[1]
Alkalinity, Bicarbonate	mg/L	150
Total Alkalinity	mg/L	150
Bromide	mg/L	*[1]
VOCs (EPA 8260B)	µg/L	MDL[2]
SVOCs (EPA 8270C)	µg/L	MDL[2]
Organochlorine Pesticide, PCB (EPA 8081A)	µg/L	MDL[2]
Chlorophenoxy Herbicides (EPA 8151)	µg/L	MDL[2]
Organophosphorus Compounds (EPA 8141A)	µg/L	MDL[2]
Aluminum, dissolved	mg/L	0.09
Antimony, dissolved	mg/L	PQL[3]
Arsenic, dissolved	mg/L	0.005
Barium, dissolved	mg/L	0.43
Beryllium, dissolved	mg/L	PQL
Cadmium, dissolved	mg/L	PQL
Chromium, dissolved	mg/L	0.009
Chromium VI+, dissolved	mg/L	0.014
Cobalt, dissolved	mg/L	PQL
Copper, dissolved	mg/L	PQL
Cyanide, dissolved	mg/L	PQL
Iron, dissolved	mg/L	0.2
Lead, dissolved	mg/L	PQL
Manganese, dissolved	mg/L	0.005
Mercury, dissolved	mg/L	PQL
Nickel, dissolved	mg/L	PQL
Selenium, dissolved	mg/L	PQL
Silver, dissolved	mg/L	PQL
Sulfide, dissolved	mg/L	PQL
Thallium, dissolved	mg/L	PQL
Tin, dissolved	mg/L	PQL
Vanadium, dissolved	mg/L	0.038
Zinc, dissolved	mg/L	PQL

Notes:
1 To be monitored quarterly for 1-year in order to determine a concentration limit.
2 Laboratory Method Detection Limit (MDL)
3 Laboratory Practical Quanitation Limit (PQL)

TABLE VI - SURFACE WATER CONCENTRATION LIMITS

Constituent	Units	Concentration Limit
Specific Conductance (EC)	µmhos/cm	*[1]
PH	pH Units	*
Turbidity	Turibidty units	*
Total Dissolved Solids (TDS)	mg/L	505
Total Suspended Solids (TSS)	mg/L	*
Chloride	mg/L	13.4
Sulfate	mg/L	21
Nitrate as N	mg/L	0.3
Total Organic Carbon	mg/L	*
Carbonate	mg/L	*
Alkalinity, Bicarbonate	mg/L	*
Total Alkalinity	mg/L	*
Chemical Oxygen Demand	mg/L	*
Dissolved Oxygen	mg/L	*
Oil and Grease	mg/L	MDL[2]
Aluminum, dissolved	mg/L	*
Antimony, dissolved	mg/L	*
Arsenic, dissolved	mg/L	*
Barium, dissolved	mg/L	*
Beryllium, dissolved	mg/L	*
Cadmium, dissolved	mg/L	*
Chromium, dissolved	mg/L	*
Chromium VI+, dissolved	mg/L	*
Cobalt, dissolved	mg/L	*
Copper, dissolved	mg/L	*
Cyanide, dissolved	mg/L	*
Iron, dissolved	mg/L	*
Lead, dissolved	mg/L	*
Manganese, dissolved	mg/L	*
Mercury, dissolved	mg/L	*
Nickel, dissolved	mg/L	*
Selenium, dissolved	mg/L	*
Silver, dissolved	mg/L	*
Sulfide, dissolved	mg/L	*
Thallium, dissolved	mg/L	*
Tin, dissolved	mg/L	*
Vanadium, dissolved	mg/L	*
Zinc, dissolved	mg/L	*

Notes:
[1] To be monitored quarterly for 1-year in order to determine a concentration limit.
[2] Laboratory Method Detection Limit (MDL)

TABLE VII - UNSATURATED ZONE CONCENTRATION LIMITS

Constituent	Units	Concentration Limit
Specific Conductance (EC)	µmhos/cm	970
PH	pH Units	5.9-9.0
Total Dissolved Solids (TDS)	mg/L	660
Chloride	mg/L	39
Sulfate	mg/L	140
Nitrate as N	mg/L	10
Total Organic Carbon	mg/L	*[1]
Carbonate	mg/L	*
Alkalinity, Bicarbonate	mg/L	*
Total Alkalinity	mg/L	*
Chemical Oxygen Demand	mg/L	*
VOCs (EPA 8260B)	mg/L	*
SVOCs (EPA 8270C)	mg/L	MDL[2]
Organochlorine Pesticide, PCB (EPA 8081A)	mg/L	MDL[2]
Chlorophenoxy Herbicides (EPA 8151)	mg/L	MDL[2]
Organophosphorus Compounds (EPA 8141A)	mg/L	MDL[2]
Aluminum, dissolved	mg/L	MDL[2]
Antimony, dissolved	mg/L	*
Arsenic, dissolved	mg/L	*
Barium, dissolved	mg/L	*
Beryllium, dissolved	mg/L	*
Cadmium, dissolved	mg/L	*
Chromium, dissolved	mg/L	*
Chromium VI+, dissolved	mg/L	*
Cobalt, dissolved	mg/L	*
Copper, dissolved	mg/L	*
Cyanide, dissolved	mg/L	*
Iron, dissolved	mg/L	*
Lead, dissolved	mg/L	*
Manganese, dissolved	mg/L	*
Mercury, dissolved	mg/L	*
Nickel, dissolved	mg/L	*
Selenium, dissolved	mg/L	*
Silver, dissolved	mg/L	*
Sulfide, dissolved	mg/L	*
Thallium, dissolved	mg/L	*
Tin, dissolved	mg/L	*
Vanadium, dissolved	mg/L	*
Zinc, dissolved	mg/L	*

Notes:
[1] To be monitored quarterly for 1-year in order to determine a concentration limit.
[2] Laboratory Method Detection Limit (MDL)

3. - Monitoring Points

The Monitoring Points (including background) at which monitoring is conducted shall be those shown on Attachments B and C as listed below.

Groundwater:	MW-1 through MW-23, LW-1 and any other wells installed at the facility for the purpose of groundwater monitoring
Surface Water:	SW-1, SW-2, SW-3, SW-4R, SW-6, and SW-7
Vadose Zone:	BG-A/B, S10-A/B, S11-A/B, S12-A/B, S13-A/B and S14-A/B
Leachate Sumps:	M-2, M-10, M-11, M-12, M-13 and M-14

4. Points of Compliance

The Point of Compliance for groundwater shall be the vertical surface located at the hydraulically downgradient limit of the waste management units that extends through the uppermost aquifer underlying the units. The Point of Compliance for surface water shall be the site property line.

5. Compliance Period

The Compliance Period is the number of years equal to the active life of the waste management unit plus at least three consecutive years of compliance with the Water Quality Protection Standard (as described in Title 27, Section 20410).

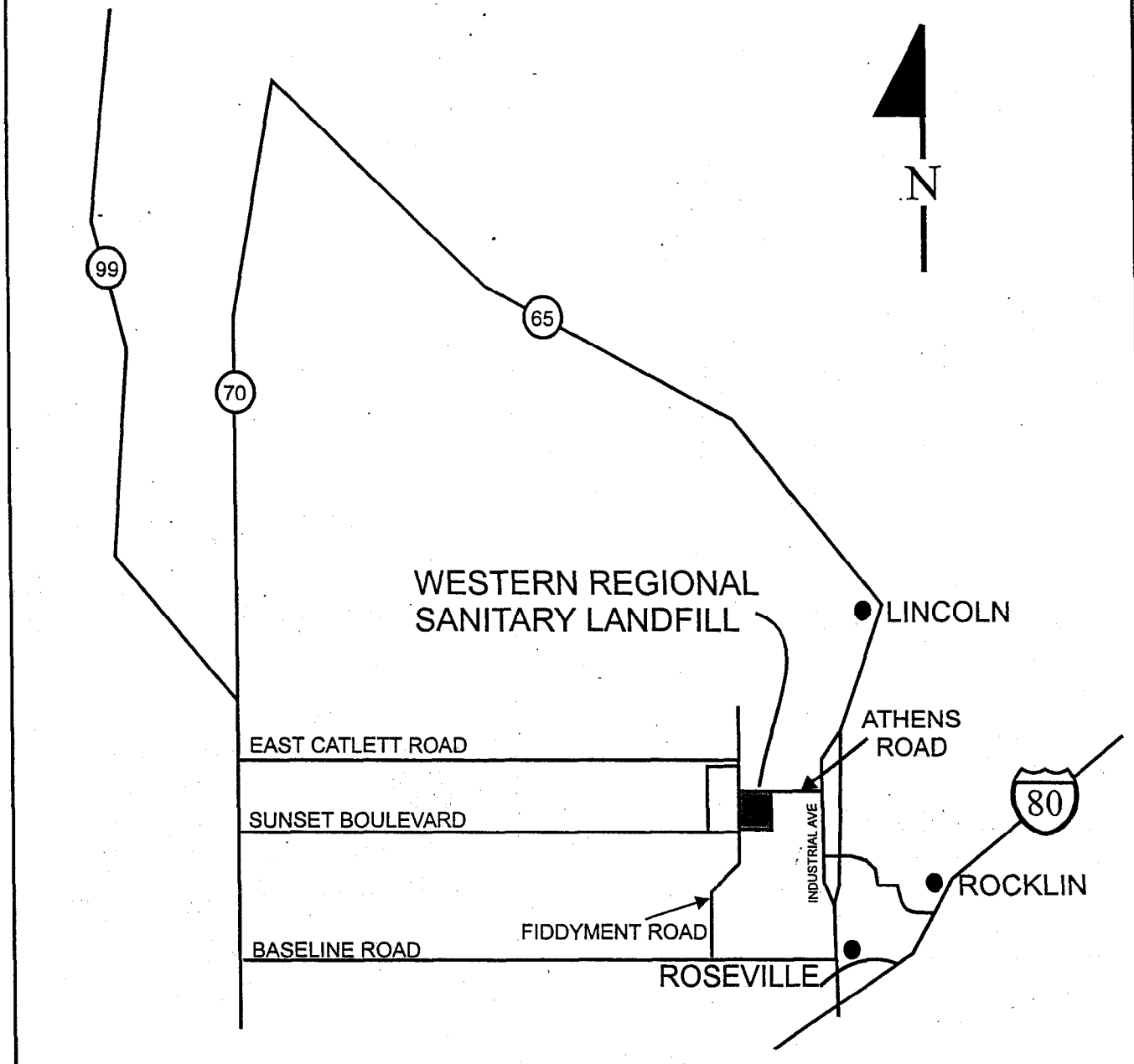
The Discharger shall implement the above monitoring program on the effective date of this Order.

Ordered by: _____
GARY M. CARLTON, Executive Officer

17 September 1999
(Date)

RDB:9/17/99
Attachments

ATTACHMENT A



SITE LOCATION MAP

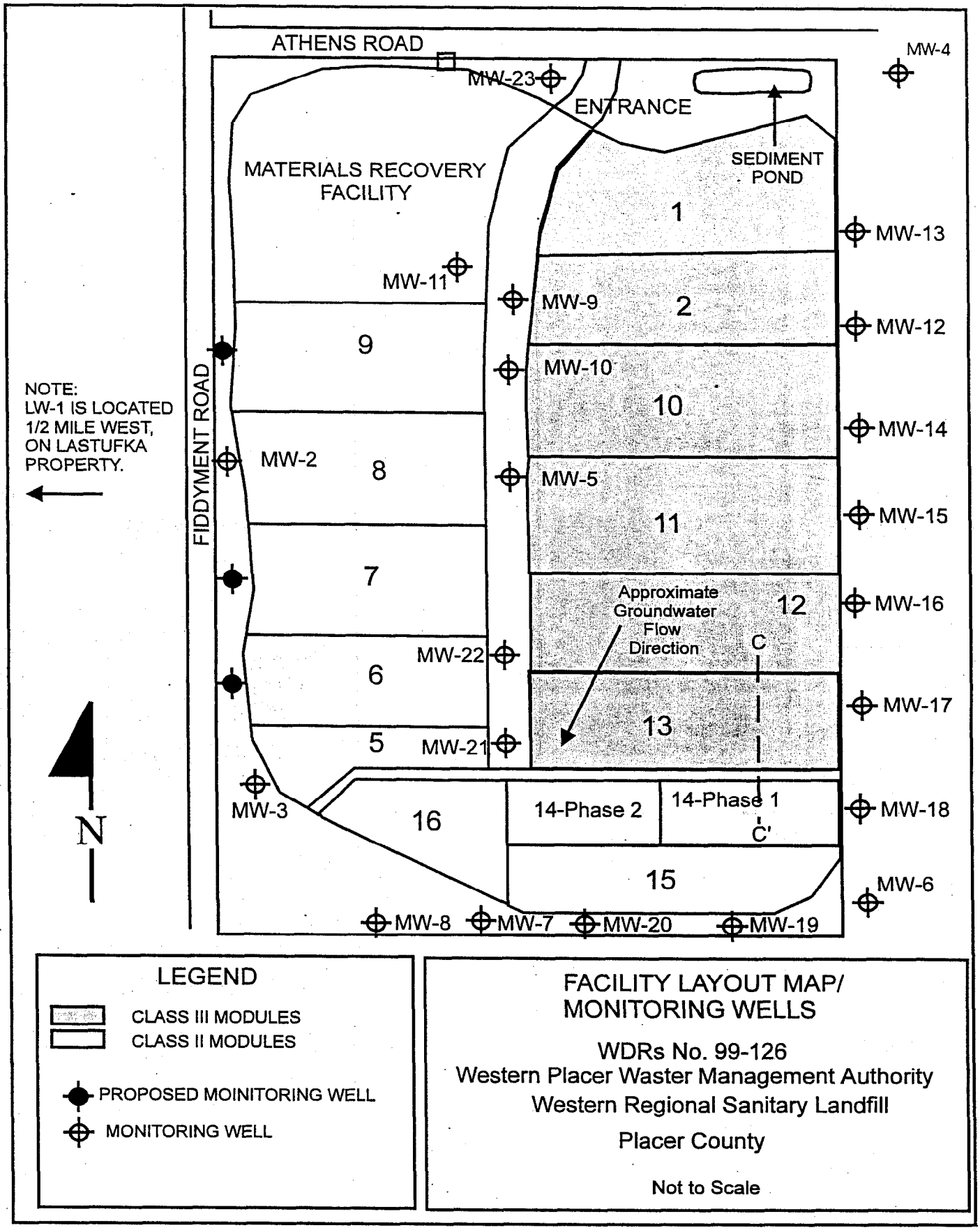
WDRs No. 99-126
Western Placer Waster Management Authority

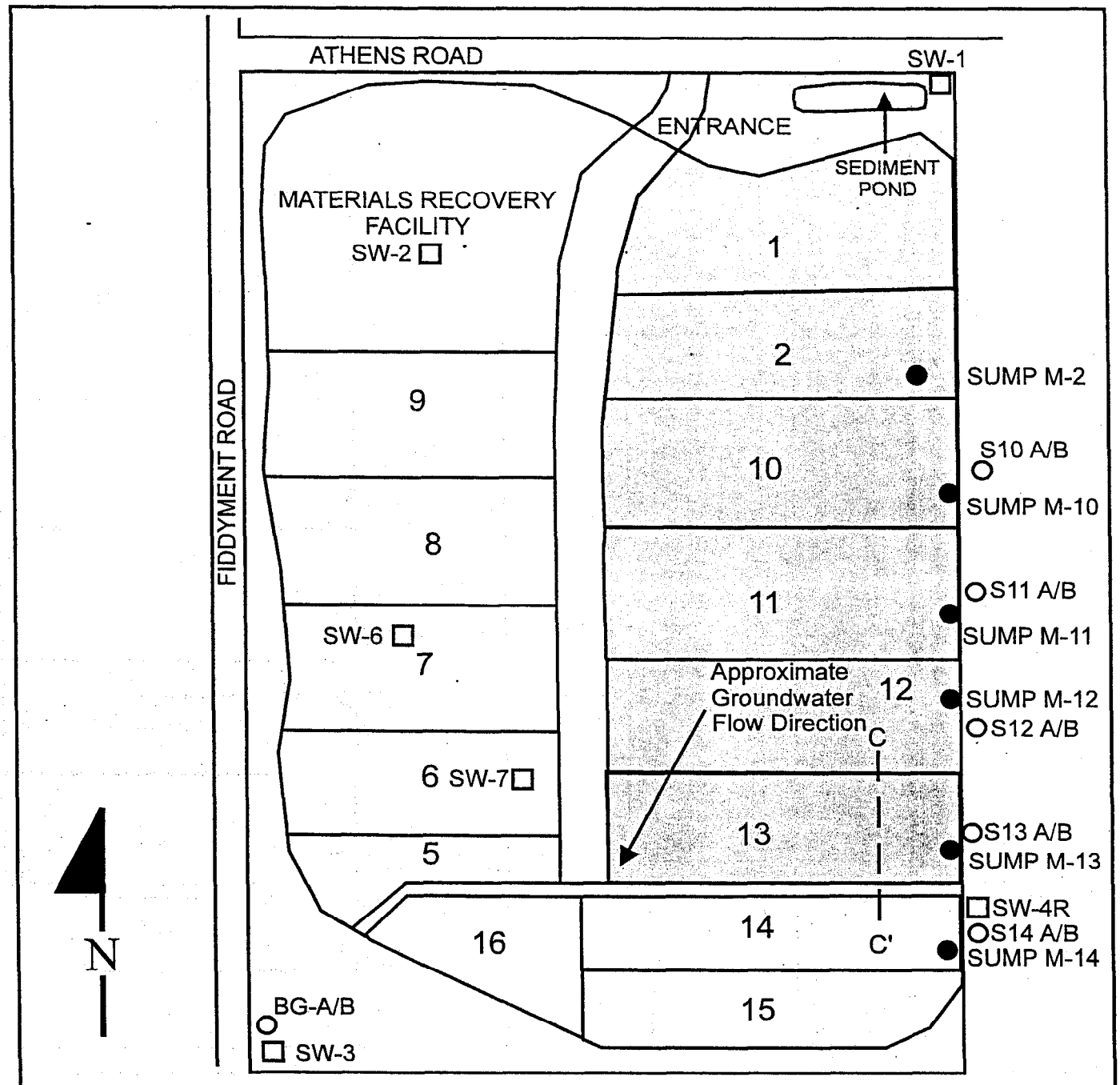
Western Regional Sanitary Landfill

Placer County

Not to Scale

ATTACHMENT B





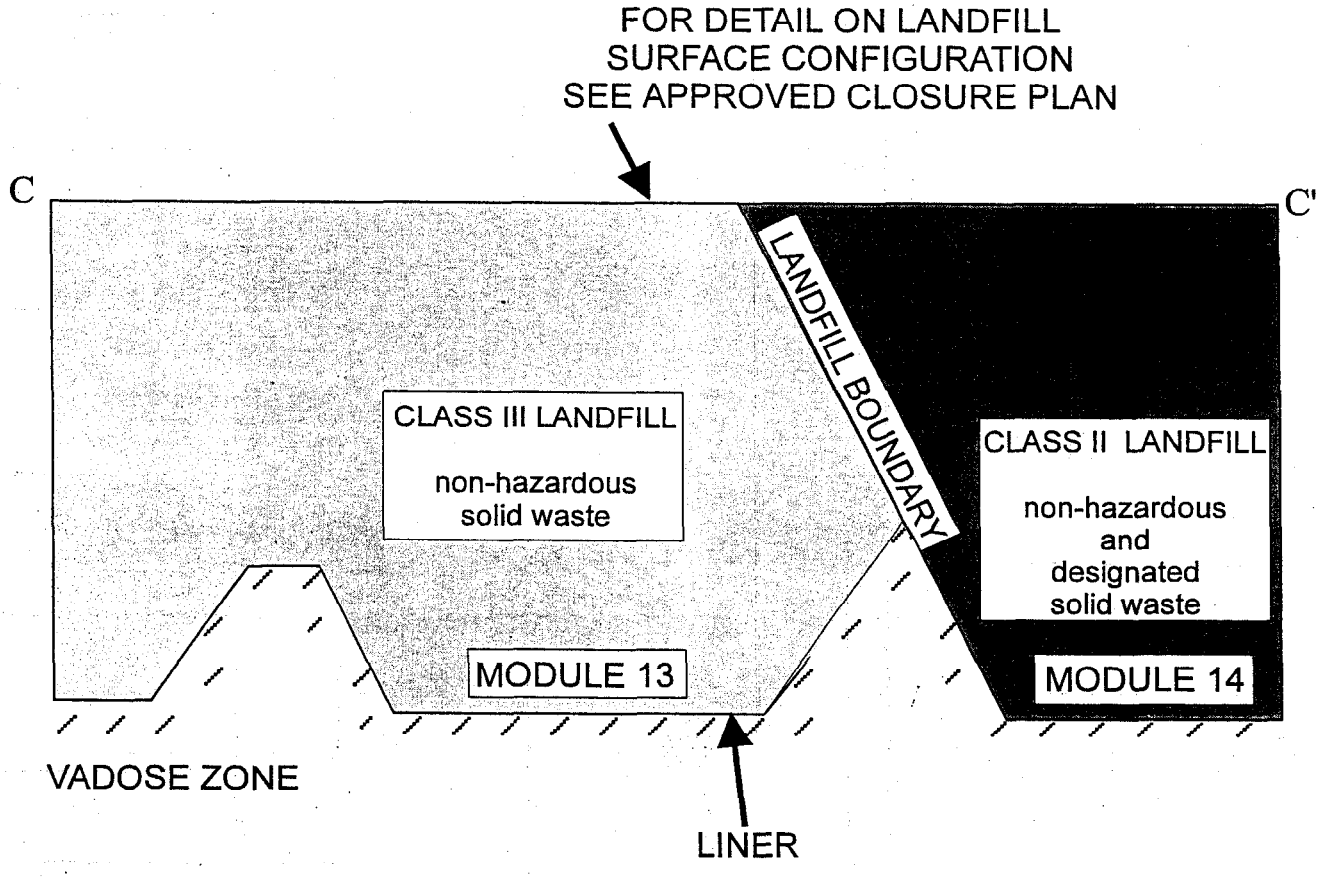
LEGEND

- CLASS III MODULES
- CLASS II MODULES
- SURFACE WATER MONITORING POINT
- LEACHATE SUMP
- LYSIMETERS (PAIRED)

VADOOSE ZONE MONITORING AND SUMP LOCATIONS

WDRs No. 99-126
Western Placer Waste Management Authority
Western Regional Sanitary Landfill
Placer County
Not to Scale

ATTACHMENT D



CLASS II / CLASS III LANDFILL BOUNDARY

SECTION C-C' LOOKING EAST

WDRs No. 99-126
Western Placer Waste Management Authority

Western Regional Sanitary Landfill

Placer County

Not to Scale

Attachment E

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Inorganics (by USEPA Method)[1]:

Aluminum	6010	Arsenic	7061
Antimony	6010	Lead	7421
Barium	6010	Mercury	7470
Beryllium	6010	Nickel	7520
Cadmium	6010	Selenium	7741
Chromium	6010	Thallium	7841
Chromium VI^{+}	7197	Cyanide	9010
Cobalt	6010	Sulfide	9030
Copper	6010		
Iron	6010		
Manganese	6010		
Silver	6010		
Tin	6010		
Vanadium	6010		
Zinc	6010		

[1] Report all peaks identified by the EPA test methods. Groundwater and leachate samples shall be analyzed and reported as dissolved. Surface water samples shall be analyzed and reported as total recoverable metals as specified in EPA-600/4-79-020 dated March 1993. Unsaturated zone water samples shall be analyzed and reported as totals.

Volatile Organics (USEPA Method 8260B):

Acetone
Acetonitrile
Acrolein
Acrylonitrile
Allyl chloride (3-Chloropropene)
tert-Amyl ether ether
tert-Amyl methyl ether
Benzene
Bromobenzene
Bromochlormethane
Bromodichloromethane
Bromoform
Bromomethane
tert-Butyl alcohol
n-Butylbenzene
sec-Butylbenzene
tert-Butylbenzene
tert-Butyl ethyl ether
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
Chloroprene
Dibromochloromethane
1,2-Dibromo-3-chloropropane (DBCP)
Dibromomethane

1,2-Dibromoethane (Ethylene dibromide; EDB)
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
trans -1,4-Dichloro-2-butene
Dichlorodiflouromethane
1,1-Dichlorethane
1,2-Dichloroethane
1,1-Dichloroethene
cis-1,2-Dichloroethene
trans-1,2-Dichloroethene
Dichloromethane
1,2-Dichloropropane
1,3-Dichloropropane
2,2-Dicholropropane
1,1-Dichloropropene
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
1,4-Dioxane
Ethylbenzene
Ethyl methacrylate
Hexachlorobutadiene
Hexachloroethane
2-Hexanone
Iodomethane
Isobutyl alcohol
di-Isopropyl ether
Methacrylonitrile
Methyl ethyl ketone
4-Methyl-2-pentanone
Methyl tert-butyl ether (MtBE)
Naphthalene
2-Nitropropane
n-Propylbenzene
Propionitrile
Styrene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethene (PCE)
Toluene
1,2,4-Trichlorobenzene
1,1,1,-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene (TCE)
Trichloroflouromethane
1,2,3-Trichloropropane
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
Vinyl chloride
Xylene (total)

Semivolatile Organics (USEPA Method 8270C):

Acenaphthene
Acenaphthylene
Acetophenone
Acetonitrile
2-Acetylaminofluorene
Ametryn
4-Aminobiphenyl
Anthracene
Atrazine
Benzo(a)anthracene
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzo(g,h,i)perylene
Benzo(a)pyrene
Benzyl alcohol
Bis(2-chloroethoxy) methane
Bis(2-chloroethyl) ether
Bis(2-ethylhexyl) phthalate
Bis(2-chloro-1-methylether) ether
Bis(4-bromophenyl phenyl) ether
Bromacil
Butyl benzyl phthalate
4-Chlorobenzenamine
4-Chloro-3-methyl phenol
2-Chloronaphthalene
2-Chlorophenol
4-Chlorophebyl phenyl ether
Chrysene
Dacthal
Dibenzo(a,h)anthracene
Di-n-butyl phthalate
3,3'-Dichlorobenzidine
2,4-Dichlorophenol
2,6-Dichlorophenol
Diethyl phthalate
2,4-Dichlorophenol
2,6-Dichlorophenol
Diethyl phthalate
O,O-Diethylphosphorothioate
p-(Dimethylamino)azobenzene

7,12-Dimethylben(a)anthracene
3,3-Dimethylbenzidine
2,4-Dimethylphenol
Dimethyl phthalate
1,2-Dinitrobenzene
1,3-Dinitrobenzene
1,4-Dinitrobenzene
4,6-Dinitro-2-methylphenol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-n-octyl phthalate
Diphenylamine
EPTC
Ethyl methanesulfonate
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachloropropene
Indeno(1,2,3-cd)pyrene
Indeno(1,2,3-cd)anthracene
Isophorone
Kepone
Lindane
Methapyrilene
3-Methylchloroanthrene
Methylmethanesulfonate
Methyl methacrylate
2-Methylnaphthalene
2-Methylphenol
3-Methylphenol
4-Methylphenol
Molinate
1,4-Naphthoquinone
1-Naphthylamine
2-Naphthylamine
2-Nitroaniline
3-Nitroaniline
4-Nitroaniline
Nitrobenzene
2-Nitrophenol
4-Nitrophenol
N-Nitrosodi-n-butylamine
N-Nitrosodiethylamine
N-Nitrosodimethylamine
N-Nitrosodiphenylamine
N-Nitrosomethylethylamine
N-Nitrosodipropylamine
N-Nitrosopiperidine
N-Nitrosopyrrolidine
5-Nitro-o-toluidine
Pentachlorobenzene
Pentachloronitrobenzene
Pentachlorophenol
Phenacelin
Phenanthrene
Phenol
1,4-Phenylenediamine
Prometon
Pronamide
Pyrene
Safrole
Simazine
Simetryn
2,4,5-Trichlorophenoxyacetic acid
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
o-Toluidine
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
O,O,O-Triethyl Phosphorothioate
sym-Trinitrobenzene
Vinyl acetate

INFORMATION SHEET

WASTE DISCHARGE REQUIREMENTS ORDER NO. 99-126
WESTERN PLACER WASTE MANAGEMENT AUTHORITY
WESTERN REGIONAL SANITARY LANDFILL FACILITY
CLASS II AND III LANDFILLS, PLACER COUNTY

The Western Placer Waste Management Authority (WPWMA) operates a landfill facility in the unincorporated area of Placer County between the cities of Roseville and Lincoln. The facility accepts municipal and solid inert wastes, de-watered sludge and designated wastes.

Waste discharge requirements are being updated in response to a request from WPWMA to allow revised engineering alternatives for the base liner and cover systems at the facility. In addition, the revised WDRs incorporate the minimum performance goals and prescriptive standards contained in Title 27 of the California Code of Regulations.

The facility consists of two waste management units – a Class II landfill and a Class III landfill. The Class III landfill has six modules (Modules 1, 2, 10, 11, 12 and 13) which currently contain refuse fill. Modules 1, 2, 10 and a portion of 11, are lined with compacted onsite soils with permeabilities of $1x10^{-4}$ to $1x10^{-7}$ cm/sec. The remainder of Module 11 and Module 12 are lined with 60-mil high density polyethylene (HDPE) material over a 6-inch compacted clay base as a substitute for the 2 feet of clay. The liners of Modules 10, 11 and 12 are overlain by blanket leachate collection systems. Module 13 was constructed to RCRA Subtitle D specifications. Modules 1 and 2 have been closed in accordance with Title 27.

The Class II landfill has eight modules (Modules 5, 6, 7, 8, 9, 14, 15 and 16). The east side of Module 14 (Phase 1) was lined with a geosynethic clay liner (GCL) and 1 foot of low permeability clay as an engineered alternative to the required 2 feet of clay. The west side of Module 14 (phase 2) and future modules will be lined with a GCL layer as an engineered alternative to the required 2 feet of clay. The current plan is to fill the eastern half of the site first, from north to south, then to fill the western half, from south to north.

Lands within 1,000 feet of the facility are presently used primarily for dry grazing, dry farming, and light industry. Lands to the north, south, and west of the facility are zoned agricultural (F-B-X-SP), with a minimum required parcel size of 80 acres. Land immediately to the east of the facility is zoned agricultural (Farm and Development Reserve SP).

Surface water drainage is to Auburn Ravine, a tributary to the Sacramento River.

Volatile organic compounds (VOCs) have historically been detected in monitoring well MW-9 near the older, unlined landfill modules. VOCs have also been detected intermittently in monitoring wells MW-10 and MW-11 which are downgradient and upgradient of well MW-9, respectively.

17 September 1999
RDB